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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/666,416	09/19/2003	Kosaraju Krishna Mohan	54821.D2	7459

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LUEDEKA, NEELY & GRAHAM, P.C.  
P O BOX 1871  
KNOXVILLE, TN 37901

EXAMINER

BRUENJES, CHRISTOPHER P

ART UNIT PAPER NUMBER

1772

DATE MAILED: 03/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/666,416

Applicant(s)

MOHAN ET AL.

Examiner

Christopher P Bruenjes

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213. }

### Disposition of Claims

- 4) ☒ Claim(s) 20 and 21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 20 and 21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 20030919.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

**DETAILED ACTION**

***Information Disclosure Statement***

1. The information disclosure statement filed September 19, 2003, fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each U.S. and foreign patent; each publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

The U.S. Patents do not need to be sent but the non-patent literature documents and the foreign patent document must be provided in order for the document to be considered. The parent case also fails to have these documents in the file, since this IDS is not in the parent file.

***Drawings***

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: bottom portion end 32. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of

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the application. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: top end area 33. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

#### ***Specification***

4. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

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5. The abstract of the disclosure is objected to because the abstract is over 150 words. Correction is required. See MPEP § 608.01(b).

6. The disclosure is objected to because of the following informalities: When claiming benefit of a US Provisional Application the first sentence must state that the application is claiming benefit but the relationship (i.e., continuation, divisional, or continuation-in-part) is not required and should not be specified when a prior provisional application is being claimed under 35 U.S.C. 119(e). See MPEP 201.11, IIIB for examples of how the sentence should be constructed. Furthermore, the sentence following the title "Field of the Invention" should be deleted, because it is no longer pertinent to the new application.

Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at

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the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sandstrom et al (USPN 6,379,497 B1) in view of Sarma et al (USPN 6,391,943).

Sandstrom et al teach an assembled paper container or cup which comprises a sidewall and a bottom sealably joined together (see abstract and Figures 16A-25B). The sidewall is provided by a paperboard material, which comprises a paperboard web including wood fiber and expanded synthetic polymer microspheres dispersed within the fibers (see abstract). The expanded synthetic polymer microspheres is added in an amount sufficient to lower the density, and an example of the amount is 100 lb/ton of fibers, which is 5% (col.44, 1.25). The apparent density of the fibers is between 3 and 9 lbs/3MSF/mil (see abstract and

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col.20, 1.3-10). The caliper is varied to arrive at the desired tensile stiffness (col.35, 1.24-41), and a specific example of the caliper for the paperboard material is 27 mils (Run 4 of Table 3 in column 44). Because the composition of the paperboard layer is the same as the claimed paperboard layer, the average internal bond is inherently greater than about 0.08 ft-lbf. Sandstrom et al further teach that the paperboard material when used to form paperboard containers or cups have a barrier coating on the inside surface of the paperboard layer having a thickness between 0.5 and 3.5 mil (col.22, 1.17-22).

Sandstrom et al fail to explicitly teach a Sheffield smoothness of greater than 300 SU. Sandstrom et al does teach that the paperboard web is calendered by suitable apparatus, known in the art to achieve the smoothness appropriate for the requirements of the grade of paperboard for the selected application, before being processed into a paper container or other product (col.31, 1.27-38). Sandstrom et al also teach that the surface of the paperboard is printed with a design or other printing (col.32, 1.26-27). Sarma et al teach that kraft paper, corrugated cardboard, and other relatively porous paper substrates having smoothness between 300 and 450 Sheffield units can be printed with quality printability at the same level as less porous substrates (col.9, 1.50-58). One of ordinary skill

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in the art would have recognized that less calendering would allow for a stiffer and stronger paperboard layer, because calendering decreases the caliper, as taught by Sandstrom et al.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the applicant's invention was made to only calender the paperboard web of Sandstrom et al to the point that the smoothness value is between 300 and 450 Sheffield units, because less calendering would allow for a stiffer and stronger paperboard layer, and the layer can still be printed with quality designs or other printing, as taught by Sarma et al.

### **Conclusion**

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kenaga et al (USPN 3,293,114); Kamihgaraguchi et al (USPN 5,514,429); Suenaga et al (USPN 6,133,170); Cavagna et al (USPN 4,898,752).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher P Bruenjes whose telephone number is 571-272-1489. The examiner can normally be reached on Monday thru Friday from 8:00am-4:30pm.

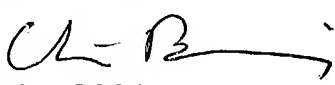



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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Christopher P Bruenjes  
Examiner  
Art Unit 1772

CPB   
March 4, 2004

  
HAROLD PYON  
SUPERVISORY PATENT EXAMINER  
1772

3/5/04